

Appl. No. 09/577,529

Amendment in Response to final Office Action of October 28, 2004

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A method for multi-dimensional color transformation comprising:

(a) applying a multi-dimensional color transformation for transformation of source device-dependent coordinates to destination device-dependent coordinates, wherein the source device-dependent coordinates and destination device-dependent coordinates have, at least in part, a common coordinate system; and

(b) constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of selected colorants specified by the source device-dependent coordinates.

Claim 2 (Original): The method of claim 1, wherein the multi-dimensional color transformation is configured based on the constraints imposed in step (b).

Claim 3 (Previously Presented): The method of claim 1, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of selected colorants present at corresponding dots specified by the source device-dependent coordinates.

Claim 4 (Previously Presented): The method of claim 1, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of black colorant present at corresponding dots specified by the source device-dependent coordinates.

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Claim 5 (Previously Presented): The method of claim 1, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of one or more chromatic colorants present at corresponding dots specified by the source device-dependent coordinates.

Claim 6 (Previously Presented): The method of claim 1, further comprising:
(c) constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent introduction of selected colorants not specified by the source device-dependent coordinates.

Claim 7 (Previously Presented): The method of claim 6, wherein step (c) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of selected colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 8 (Previously Presented): The method of claim 6, wherein step (c) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of black colorant not present at corresponding dots specified by the source device-dependent coordinates.

Claim 9 (Previously Presented): The method of claim 6, wherein step (c) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of one or more chromatic colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 10 (Previously Presented): The method of claim 6, wherein step (c) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of chromatic colorants for black-only dots specified by the source device-dependent coordinates.

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Claim 11 (Previously Presented): The method of claim 6, further comprising constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation in at least one of steps (b) and (c) based at least in part on constraints specified by a user.

Claim 12 (Previously Presented): The method of claim 1, wherein each of the source device-dependent coordinates and destination device-dependent coordinates is defined by cyan, magenta, yellow, and black (CMYK) colorants.

Claim 13 (Currently Amended): A method for multi-dimensional color transformation comprising:

(a) generating a multi-dimensional color transformation for transformation of a source device-dependent coordinates to a destination device-dependent coordinates, wherein the source device-dependent coordinates and destination device-dependent coordinates have, at least in part, a common coordinate system; and

(b) constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent introduction of selected colorants not specified by the source device-dependent coordinates.

Claim 14 (Original): The method of claim 13, wherein the multi-dimensional color transformation is configured based on the constraints imposed in step (b).

Claim 15 (Previously Presented): The method of claim 13, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of selected colorants not present at corresponding dots specified by the source device-dependent coordinates.

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Claim 16 (Previously Presented): The method of claim 13, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of black colorant not present at corresponding dots specified by the source device-dependent coordinates.

Claim 17 (Previously Presented): The method of claim 13, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of one or more chromatic colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 18 (Previously Presented): The method of claim 13, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of chromatic colorants for black-only dots specified by the source device-dependent coordinates.

Claim 19 (Previously Presented): The method of claim 13, wherein each of the source device-dependent coordinates and destination device-dependent coordinates is defined by cyan, magenta, yellow, and black (CMYK) colorants.

Claim 20 (Currently Amended): A system for multi-dimensional color transformation comprising:

a processor that generates a multi-dimensional color transformation for transformation of a source device-dependent coordinates to destination device-dependent coordinates, wherein the source device-dependent coordinates and destination device-dependent coordinates have, at least in part, a common coordinate system, and

a memory that stores constraints,

wherein the processor is programmed to apply the constraints to constrain the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of selected colorants specified by the source device-dependent coordinates.

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Claim 21 (Original): The system of claim 20, wherein the multi-dimensional color transformation is configured based on the constraints applied by the processor.

Claim 22 (Previously Presented): The system of claim 20, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of selected colorants present at corresponding dots specified by the source device-dependent coordinates.

Claim 23 (Previously Presented): The system of claim 20, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of black colorant present at corresponding dots specified by the source device-dependent coordinates.

Claim 24 (Previously Presented): The system of claim 20, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of one or more chromatic colorants present at corresponding dots specified by the source device-dependent coordinates.

Claim 25 (Previously Presented): The system of claim 20, wherein the processor is further programmed to constrain the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent introduction of selected colorants ~~color image data~~ not present specified by the source device-dependent coordinates.

Claim 26 (Previously Presented): The system of claim 25, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of selected colorants not present at corresponding dots specified by the source device-dependent coordinates.

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Claim 27 (Previously Presented): The system of claim 25, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of black colorant not present at corresponding dots specified by the source device-dependent coordinates.

Claim 28 (Previously Presented): The system of claim 25, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of one or more chromatic colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 29 (Previously Presented): The system of claim 25, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of chromatic colorants for black-only dots specified by the source device-dependent coordinates.

Claim 30 (Previously Presented): The system of claim 20, wherein each of the source device-dependent coordinates and destination device-dependent coordinates is defined by cyan, magenta, yellow, and black (CMYK) colorants.

Claim 31 (Currently Amended): A system for multi-dimensional color transformation comprising:

a processor that generates a multi-dimensional color transformation for transformation of a source device-dependent coordinates to a destination device-dependent coordinates, wherein the source device-dependent coordinates and destination device-dependent coordinates have, at least in part, a common coordinate system; and

a memory that stores constraints,

wherein the processor is programmed to apply the constraints to constrain the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent introduction of selected colorants not specified by the source device-dependent coordinates.

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Claim 32 (Original): The system of claim 31, wherein the multi-dimensional color transformation is configured based on the constraints applied by the processor.

Claim 33 (Previously Presented): The system of claim 31, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of selected colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 34 (Previously Presented): The system of claim 31, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of black colorant not present at corresponding dots specified by the source device-dependent coordinates.

Claim 35 (Previously Presented): The system of claim 31, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of one or more chromatic colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 36 (Previously Presented): The system of claim 31, wherein the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of chromatic colorants for black-only dots specified by the source device-dependent coordinates.

Claim 37 (Previously Presented): The system of claim 31, wherein each of the source device-dependent coordinates and destination device-dependent coordinates is defined by cyan, magenta, yellow, and black (CMYK) colorants.

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Claim 38 (Currently Amended): A computer-readable medium containing program code that when executed by a processor:

(a) generates a multi-dimensional color transformation for transformation of source device-dependent coordinates to destination device-dependent coordinates, wherein the source device-dependent coordinates and destination device-dependent coordinates have, at least in part, a common coordinate system; and

(b) constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of selected colorants ~~color image data~~ specified by the source device-dependent coordinates.

Claim 39 (Original): The computer-readable medium of claim 38, wherein the multi-dimensional color transformation is configured based on the constraints imposed in step (b).

Claim 40 (Previously Presented): The computer-readable medium of claim 38, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of selected colorants present at corresponding dots specified by the source device-dependent coordinates.

Claim 41 (Previously Presented): The computer-readable medium of claim 38, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of black colorant present at corresponding dots specified by the source device-dependent coordinates.

Claim 42 (Previously Presented): The computer-readable medium of claim 38, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent removal of one or more chromatic colorants present at corresponding dots specified by the source device-dependent coordinates.

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Claim 43 (Previously Presented): The computer-readable medium of claim 38, wherein the program code is configured such that, when executed, the processor:

(c) constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent introduction of selected colorants ~~color image data~~ not present specified by the source device-dependent coordinates.

Claim 44 (Previously Presented): The computer-readable medium of claim 43, wherein step (c) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of selected colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 45 (Previously Presented): The computer-readable medium of claim 43, wherein step (c) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of black colorant not present at corresponding dots specified by the source device-dependent coordinates.

Claim 46 (Previously Presented): The computer-readable medium of claim 43, wherein step (c) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of one or more chromatic colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 47 (Previously Presented): The computer-readable medium of claim 43, wherein step (c) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of chromatic colorants for black-only dots specified by the source device-dependent coordinates.

Claim 48 (Previously Presented): The computer-readable medium of claim 43, wherein the program code is configured such that, when executed, the processor constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation in at least one of steps (b) and (c) based at least in part on constraints specified by a user.

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Claim 49 (Previously Presented): The computer-readable medium of claim 38, wherein each of the source device-dependent coordinates and destination device-dependent coordinates is defined by cyan, magenta, yellow, and black (CMYK) colorants.

Claim 50 (Currently Amended): A computer-readable medium containing program code that when executed by a processor:

(a) generates a multi-dimensional color transformation for transformation of source device-dependent coordinates to destination device-dependent coordinates, wherein the source device-dependent coordinates and destination device-dependent coordinates have, at least in part, a common coordinate system; and

(b) constrains the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent introduction of selected colorants not specified by the source device-dependent coordinates.

Claim 51 (Original): The computer-readable medium of claim 50, wherein the multi-dimensional color transformation is configured based on the constraints imposed in step (b).

Claim 52 (Previously Presented): The computer-readable medium of claim 50, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of selected colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 53 (Previously Presented): The computer-readable medium of claim 50, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of black colorant not present at corresponding dots specified by the source device-dependent coordinates.

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Claim 54 (Previously Presented): The computer-readable medium of claim 50, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of one or more chromatic colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 55 (Previously Presented): The computer-readable medium of claim 50, wherein step (b) includes constraining the destination device-dependent coordinates produced by the multi-dimensional color transformation to prevent addition of chromatic colorants for black-only dots specified by the source device-dependent coordinates.

Claim 56 (Previously Presented): The computer-readable medium of claim 50, wherein each of the source device-dependent coordinates and destination device-dependent coordinates is defined by cyan, magenta, yellow, and black (CMYK) colorants.

Claim 57 (Canceled).

Claim 58 (Canceled).

Claim 59 (Currently Amended): A method for multi-dimensional color transformation comprising:

applying a multi-dimensional color transformation for transformation of source device-dependent coordinates to destination device-dependent coordinates, wherein the source device-dependent coordinates and destination device-dependent coordinates have, at least in part, a common coordinate system; and

constraining the destination device-dependent coordinates to a range of matching destination device-dependent coordinates searched by the multi-dimensional color transformation as a function of the source device-dependent coordinates to prevent substitution for colorants specified by the source device-dependent coordinates.

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Claim 60 (Previously Presented): The method of claim 59, wherein constraining includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent removal of selected colorants specified by the source device-dependent coordinates.

Claim 61 (Previously Presented): The method of claim 59, wherein constraining includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent removal of selected colorants present at corresponding dots specified by the source device-dependent coordinates.

Claim 62 (Previously Presented): The method of claim 59, wherein constraining includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent removal of black colorant present at corresponding dots specified by the source device-dependent coordinates.

Claim 63 (Previously Presented): The method of claim 59, wherein constraining includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent removal of one or more chromatic colorants present at corresponding dots specified by the source device-dependent coordinates.

Claim 64 (Previously Presented): The method of claim 59, wherein constraining includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent introduction of selected colorants not specified by the source device-dependent coordinates.

Claim 65 (Previously Presented): The method of claim 59, wherein constraining includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent addition of selected colorants not present at corresponding dots specified by the source device-dependent coordinates.

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Claim 66 (Previously Presented): The method of claim 59, wherein constraining includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent addition of black colorant not present at corresponding dots specified by the source device-dependent coordinates.

Claim 67 (Previously Presented): The method of claim 59, wherein step (b) includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent addition of one or more chromatic colorants not present at corresponding dots specified by the source device-dependent coordinates.

Claim 68 (Previously Presented): The method of claim 59, wherein step (b) includes constraining the destination device-dependent coordinates in the multi-dimensional color transformation to prevent addition of chromatic colorants for black-only dots specified by the source device-dependent coordinates.